corresponding to the affected ear; ocular disturbance on the side corresponding to the unaffected ear, contrary to the reports of other observers, not appearing in this series of cases.

The diskal changes developed rapidly, in some cases within twenty-four hours, in others within a few days, and were usually slow in resolution, the change for the better keeping pace with the improvement in the causative intracranial disease.

The presence of changes in the fundus, in whatever degree, in the course of an acute or chronic suppurative disease of the middle ear, may be taken, in the opinion of the author, to indicate the existence of an intracranial complication, without diagnostic value, however, in the determination of the character of the complication, or prognostic value as to its degree or extent; with exception, perhaps, of the choked disk, suggestive of an inflammatory intracranial disturbance, a brain tumor, or a chronic hydrocephalus. Absence of diskal changes, on the contrary, by no means permits the assumption of the absence of intracranial complications.

The observations of Hansen indicate the importance of careful and repeated ophthalmoscopic examination in all cases of suppurative middle-ear disease presenting the possibility of intracranial infection, and, where optic changes are determined, their proper regard as symptoms indicative of the advisability of surgical interference to the extent of complete opening of the suppurative aural cavity.

Korner concludes, as the result of his observations in 34 cases, that changes in the optic disk in cases of intracranial complications of suppurative middle-ear disease are much more frequently overlooked than found, and that they are most often observed where there is a combination of intracranial disorders.

In 12 uncomplicated cases of extradural abscess the fundus was normal in 9 cases and showed alterations in 3 cases; in 4 uncomplicated cases of purulent meningitis, 4 cases of sinus thrombosis and 1 case of squamosal abscess, the fundus was normal.

In 2 out of 6 cases of complicated with sinus phlebitis, in 4 out of 11 cases of complication with extradural abscess, in 1 out of 2 cases of complication with brain abscess, and in 4 out of 6 cases of meningitis, ophthalmoscopic examination showed changes in the fundus. Optic nerve implication occurred in both eyes in all the cases observed; to an equal degree in 2 cases, to a greater degree in the eye corresponding to the affected ear in 3 cases, and reversely in 4 cases.

As a means of determining the character of the intracranial disorder or as of value in prognosis, the author considers that the changes in the optic disk may be, in the main, disregarded, as after evacuation of pus from the cranial cavity, the diskal changes may persist or may even first appear, thus rendering their value for purposes of prognosis uncertain.

Suppurative Disease of the Middle Ear in Infants.—Schengelidze (*Archiv für Kinderheilkunde*, Bd. xxxi., Hefte 3 and 4).—In 70.5 per cent. of 90 autopsies made by the author in children under one year of age there were indications of a suppurative disease of the middle ear, and in the majority in both ears. Perforations of the drum-head were found in only 29 per cent. of the cases, which were mostly cases of pneumonia and of intestinal catarrh.

An investigation into the character of the pathogenic micro-organisms found in the tympana of sucklings showed them to be much the same in the serous and in the suppurative inflammations and to correspond in the main to the micro-organisms found in the nasopharynx. The most frequent was the diplococcus pneumoniæ accompanied by the staphylococcus pyogenes albus.

Streptococci were found only in the more severe forms of suppurative otitis and were accompanied by perforation of the drum-head; the same micro-organisms, with exception of streptococci, were also found in cases where the tympanic mucous membrane was in normal condition.

The frequency of suppurative middle-ear disease in infants is explainable by the peculiar anatomical and histological conditions of the tympanopharyngeal tube and tympanic cavity; the tube is short, exceedingly patent, nearly horizontal in its course, and closely approximates the posterior border of the hard palate by its pharyngeal end, its long axis forming an obtuse angle with the long axis of the inferior nasal chamber; the mucous membrane of the tympanum is vascular, soft, and delicate, largely lacking in fibrous connective and rich in glandular tissue.

These conditions serve to favor the passage through the tube and into the middle ear of nasal mucous sputa and vomitus and render the tympanic mucous membrane less resistant than in the adult, while the existence of adenoids in 41.9 per cent. of the observed cases of suppurative middle-ear disease in infants offers another explanation, through their interference with normal function, for the frequency of this disease in infants.

Aural Causation of Nystagmus.—BAVANY (*Ophthalmologische Gesellschaft*, Vienna, June, 1905), as the result of experiments made by forcible syringing of the ears in cases of normal ears of various forms of middle-ear disease and of deaf-mutes, the author arrives at the following conclusions:

1. Syringing with water below the body temperature induced a purely rotatory nystagmus directed toward the opposite side and most marked when the sight was directed toward the side opposite to that of the ear syringed. Syringing with water above the body temperature educed a rotatory nystagmus toward the side syringed and most marked when the sight was turned in a corresponding direction. With the head inclined toward the side opposite to the ear syringed, a horizontal nystagmus was educed toward the side syringed when cold and toward the opposite side when warm water was used, the horizontal nystagmus, in either direction, changing to a rotatory nystagmus when the head resumed the erect position or was inclined toward the side syringed.

2. Syringing with water at the body temperature had no effect in the production of nystagmus.

3. In cases of intact drum-head a longer period of syringing was requisite for the production of the ocular symptoms and greater variations in temperature of the water from the normal body mean than in cases of perforation of the drum-head, which exposed the outer labyrinth wall to the direct influence of the change in temperature; a difference of 1° C. above or below, the normal being sufficient in the latter instance to induce the ocular symptoms.